

MISSOURI CONSERVATIONIST

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Vantage Point

True Measures of Conservation Success

Successful conservation projects frequently take many years to bear fruit and, of course, require the cooperation of Mother Nature. During my three decades of work in conservation, I have learned the values of patience and dedication. Our agency is fortunate to have many patient and dedicated people as part of its past, present and future. For this, I am truly thankful.

In the 1970s, a group of visionary leaders crafted “A Design for Conservation,” a detailed plan for our conservation future. The plan promised Missouri citizens specific achievements in 19 program areas in exchange for stable sales tax funding equal to $\frac{1}{8}$ of 1 percent.

The Conservation Department’s chief photographer and writer at the time, Don Wooldridge, defined the motivation behind the effort: “The Design isn’t for the benefit of the Department of Conservation, it’s for Missourians. It’s for the future.”

This sentiment captures the key to conservation—creating meaningful change over decades for all future Missourians to enjoy.

Today, we reap the benefit of the patience of those before us who kept their promises to expand and improve a host of conservation services, public use areas and public facilities. Our quality of life is better for it and, because of it, Missouri’s economy is bolstered. Expenditures on fish and wildlife recreation in Missouri generate a positive annual economic impact of \$4 billion!

But we still face many conservation challenges that require patience and diligence. That is why I am especially thankful for the dedication displayed by so many special people on behalf of our natural resources.

I am thankful for the thousands of volunteers who freely give their time, energy and expertise for the benefit of conservation. Hunter education instructors, nature center volunteers and Stream Team members are great examples. The cost of providing these services, absent the volunteers, would be substantial.

I am thankful for the nearly two million hunters and anglers who help to manage fish and wildlife populations. Sportsmen and women were the original conserva-



Dr. Harry and Lina Berrier of Columbia pose with Conservation Department Director John Hoskins (middle). The Berriers have set up a special trust account to donate proceeds from their Show-Me Barbecue Sauce business to benefit conservation.

tionists and the impetus for the creation of this agency.

I am thankful that citizens continue to support Missouri conservation efforts and the funding needed to pay for them. A recent Gallup survey reports that two-thirds of Missourians believe their Department of Conservation is doing a “good” or “excellent” job. For seven decades, the hallmark of Conservation Commission leadership has been long-range programs, honest accounting and citizen involvement.

I am thankful that Conservation Department employees have the courage to question whether our current efforts are working and the innovation to choose the most productive paths to success.

Finally, I am thankful and inspired by the personal and financial commitment of extraordinary conservationists like Dr. Harry and Lina Berrier. About 20 years ago, the Berriers created a special trust account to dedicate proceeds from their Show-Me Barbecue Sauce business to benefit a special conservation need. Their annual holiday donations have accrued to a sizable gift that will serve generations to come.

Patience is concentrated strength. May we all be thankful this holiday season for our collective dedication to Missouri’s conservation success.

John D. Hoskins, Director

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Reflections

CALLING OWLS

The picture of the owl on the conservation calendar brought back memories of a little owl that wintered in a tree up the road from us.

He arrived every year when it turned cold. We named him "Hootie."

On my daily walks, I would stop and talk to him if he was in the opening. If not, I could usually coax him out by calling to him.

He stopped coming about two years ago, but we still look up at his hole, hoping he'll still be there.

Kathy Frazier, Anderson

MUSHROOM ROULETTE

I was surprised to see what we always referred to as fall coral mushrooms included in a photo of inedible mushrooms in your October issue.

My family has enjoyed this variety for as long as I can remember. Not only are they delicious, they are also fun

to hunt. Their golden color and coral shape make them easier to spot.

We also find them easier on the digestive system than the morel mushrooms we find in the spring. They don't have as strong a flavor. We cook them the same way as we do morels, rolled in egg and flour and fried golden brown.

Teri Ellison, St. Clair

Saying that the nice bunch of mushrooms shown on page 2 of your October issue "is a collection of colorful mushrooms, not edible mushrooms" is too defensive.

The fact is that I've probably eaten most of what types are portrayed. The grayish violet ones to the left and right are probably *Russula cyanoxantha*, edible uncooked, and very good!

The red ones are probably *Russula lepida*, which can be eaten if the red cuticle is pulled off or simply boiled off.

The violet one on the lower left

might be the tasty *Clitocybe nuda*, and the tan-orange-umber mushrooms on the upper left look like something I've eaten.

I'm an amateur mycologist who is still alive after eating about 20 species growing on the ½-acre around his home.

Carl Masthay, Creve Coeur

Editor's note: We didn't mean to imply that all the mushrooms in the picture are inedible. Instead, we meant to say that they are not all necessarily edible.

SNEEZEWEED ADVENTURE

I read where you are introducing Virginia sneezeweed at two Conservation areas. I have seen similar enthusiastic write-ups on other plant introductions: sericea lespedeza, kudzu and multiflora rose. Each of those species proved to be invasive and overly aggressive pests. Virginia sneezeweed is being introduced without even having a purported benefit.

We should learn from our past mistakes.

Jack Hall, Doniphan

Editor's note: We did not introduce Virginia sneezeweed into Missouri, only to two conservation areas in Howell County. It occurs in, and is considered native to other areas of south-central Missouri, and has been documented there since the 1950s. It has probably been in Missouri for hundreds, if not thousands, of years but was not recognized as a separate species from another of the more common Missouri sneezeweeds until recently. It has not become a problem in pastures, and it requires more moisture than the bitterweed, so it will not grow on droughty sites.

BRAIN FOOD

You printed a letter from a gentlemen recommending the eating of squirrel brains. I was distressed that you would publish such a letter without noting a



WEE TURTLES THREE

Margaret Summers of St. Louis sent in this photo of a trio of three-toed box turtles her husband found while working in the raspberries in their garden late last September. It's hard to imagine that these newly hatched turtles might have as much as 60 years of life ahead of them.

"warning" against such a practice. Did you not know of the numerous deaths in recent years in Tennessee, Kentucky and Arkansas from people eating squirrel brains from diseased squirrels?

There were quite a few deaths and upon finding the cause of these, it was determined that all persons practiced eating of squirrel brains. It evidently is considered quite a delicacy in some of the Ozark mountain regions and lapping over into Tennessee and Kentucky mountain areas.

I hope you will check this out and print a comment or warning that this is

not a practice that should be continued.

Norma Rodeck, Kansas City,

Editor's note: Neither the Center for Disease Control nor the Missouri Department of Health and Senior Services has issued cautions about eating squirrel brains. A 1997 study reported a possible link among five people in Kentucky who had Creutzfeldt-Jakob disease (CJD). All five had a history of eating squirrel brains. Subsequent studies, however, have not confirmed any causal relationship between eating squirrel brains and CJD.

The letters printed here reflect readers' opinions about the Conservationist and its contents. Space limitations prevent us from printing all letters, but we welcome signed comments from our readers. Letters may be edited for length and clarity.

Ask the Ombudsman



Q: How can I get a subscription for the kid's magazine for my grandson?

A: *Outside In* is a youth-oriented publication that is inserted into the February, May, August and November issues of the *Missouri Conservationist* magazine. If your grandson's parents are receiving the *Conservationist*, they are also receiving *Outside In*. The supplement is not available as a separate subscription. It is available to schools in bundles of 30. Teachers interested in receiving *Outside In* or the *Missouri*

Conservationist can request them through their school librarian. Librarians should contact our Circulation office to place school orders. Contact information is at the bottom of each magazine's contents page.

Q: I have some great nature pictures. Can I get them printed in the magazine?

A: We receive many more photos from readers than we could ever publish. However, we usually pick one reader's photo per month to include in the magazine. If you would like yours to be among the group from which we choose, you can send it to Magazine Editor, at the address mentioned below. Sorry, but photos can't be returned. If you would prefer to send your photo via e-mail, send it to me at <Ken.Drenon@mdc.mo.gov>. I'll relay it to the editor for consideration.

Ombudsman Ken Drenon will respond to your questions, suggestions or complaints concerning Conservation Department programs. Write him at P.O. Box 180, Jefferson City, MO 65102-0180, call him at 573/522-4115, ext. 3848, or e-mail him at <Ken.drenon@mdc.mo.gov>.

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Partners in Rural FIRE PROTECTION

Rural volunteer firefighters sacrifice their time and safety, and deserve our sincere thanks.

by Bill Altman, photos by Cliff White



In its infancy, the Missouri Department of Conservation faced serious challenges to its mission of conserving the state's forest, fish and wildlife resources. Misuse of fire was so prevalent that Missouri's state forester at the time said that protecting Missouri's forests from the ravages of wildfire was impossible.

Fortunately, efforts to control the spread of fire across Missouri did not cease. In addition to fighting fires, the Conservation Department helped the public understand the dangers of indiscriminate burning.



Although burning under specific parameters and in suitable types of vegetation is a valuable management tool, uncontrolled, repeated fire in Missouri's hardwood forests can cause great damage.

Intense fires that occurred during the early days of the Conservation Department killed or heavily damaged the young trees that had regenerated after the old-growth forest was removed. Even if they survived, fire-damaged trees had little value for wood products. They were also susceptible to breaking and toppling during wind and ice storms.

Wildfires also consumed the protective duff and humus layer of the forest floor, leading to erosion.

In many areas, erosion of the thin top layer of soil undermined an area's ability to regenerate vegetation. Steep, barren hillsides and other areas where the forest floor was unprotected were vulnerable to erosion. Runoff

from the bare hills deposited this precious soil into streams and rivers, where it was carried away forever.

Because controlling wildfires was basic to establishing healthy forests, the new Conservation Department made this its priority. It began by organizing forest-fire protection districts in southern Missouri to manage the suppression effort. It worked hard to teach the public about fire prevention. The Department also built fire towers across the entire Ozarks to help detect fires.

The Conservation Department developed or obtained new fire suppression tools, including crawler tractors that pulled rear-mounted plows and gasoline powered leaf blowers. They also formed partnerships for fire suppression with the U.S. Forest Service and with the rural volunteer fire departments that were emerging across the state.

Through tenacious work, the Department began to gain some ground on the "impossible" task of wildfire suppression.

Volunteer fire departments gradually became our most important partners in controlling fire in Missouri. A program developed in the 1960s allowed excess federal property, primarily from the military, to be used by rural volunteer fire departments. The Federal Excess Personal Property (FEPP) Program, as it is now called, loaned excess military property to rural fire departments. Jeeps, 4X4 and 6X6 trucks, and a variety of smaller items, like pumps, hoses, and water tanks, were valuable assets to local fire-fighting organizations.

The Conservation Department, the U.S. Forest Service and private forestry entities channeled federal matching grants to rural fire departments for purchasing fire fighting equipment. Later, funds from the Conservation Sales Tax began to supplement federal funds. While the amount of money for these grants varies greatly from year to year, both federal and state fire department grant programs still exist. All fire departments serving a population of less than 10,000 may participate in these two programs by entering into a mutual aid agreement with the Conservation Department.

The value of the partnership among the Conservation Department, the Forest Service and volunteer fire departments was never more evident than in 1980. That summer brought heat and drought not seen in Missouri since the 1930s. The hot, dry conditions began that year in early June, turning the state's woodlands into a tinderbox. Hardly any rain fell anywhere in the state.

By mid-July, high temperatures often ranged between 105 and 110 degrees, but sometimes pushed as high as 115 degrees. On many days the wind howled out of the southwest at 20 to 30 miles per hour.



The Conservation Department provides valuable training to rural volunteer firefighters.



The Federal Excess Personal Property Program supplies rural fire departments with much-needed equipment.

From a firefighter's (and a forester's) perspective, the whole state seemed to catch fire. Majestic oaks and other hardwood trees that appeared to have green leaves often burst into flames that jumped from tree to tree. By October, when those torrid conditions finally relented, firefighters were exhausted. Without the assistance of the rural volunteer firefighters, losses of property and wildland acreage would have been much greater.

The experience frightened many Missouri citizens. In response, rural communities across the state began to understand the value of properly equipping and training their local volunteer fire departments.

In some areas, citizens voted for tax-supported fire protection districts. In other communities, people became supportive of their fire department through membership dues and fundraisers. Communities that had no fire protection formed local volunteer fire departments.

Even when well funded, operating a rural volunteer fire department is not easy. It needs a dedicated fire chief who has the leadership qualities to organize and maintain what can be a complicated enterprise. Usually, this person is not compensated for the many hours it takes to keep a fire department functioning effectively. The chief also has to be able to attract and retain volunteer firemen, who sacrifice their time to respond to fire calls and perform maintenance at the fire station.

Firefighters also have to be trained to fight both structural and wildland fire, which require different techniques. They also have to learn how to drive emergency vehicles, handle hazardous materials spills, and perform motor vehicle accident extrication and trench entrapment extrication. Volunteer firefighters also must have "first responder" and EMT skills.

Many rural fire departments now also respond to rescues of any type, as well as emergency medical response calls. These calls come at all hours. Volunteer firefighters are truly public servants.

Since 1980, rural volunteer fire departments have become "first responders" to wildfires in most parts of the state. The Conservation Department has a corps of active fire fighters to support volunteer fire departments. However, the ability of rural fire departments to handle most wildfires has allowed the Department's personnel to focus on other key forest management activities.

In addition to mutual aid agreements with the Conservation Department, most local fire service organization also have agreements with neighboring fire departments. In times of fire disasters, a system of statewide mutual aid can bring help wherever needed. In the fall of 1999, this system resulted in a coordinated



Improved training and equipment helps firefighters battle wildfires that threaten Missouri's forests.

response to a wildfire disaster occurring in the Lake of the Ozarks area.

Rural fire departments are often unnoticed by the residents of the communities they serve until an emergency arises. However, your local fire service needs your continued support. That support might be in the form of attending fire department fundraisers or campaigning for development of a tax-funded, fire protection district. It can also be as simple as showing your appreciation for their dedication as public servants by giving them a pat on the back, a handshake or a sincere "Thank you." ▲

THE Beagle Boogie

Steady training and practice turns mixed-breed beagles into efficient rabbit dogs.

By David Urich, photos by Cliff White



Nearly 14 years ago, I came home from work one day to find my oldest son, who was 10, sitting on the back porch petting a new puppy. We live on 40 acres in rural Moniteau County, and stray dogs often find refuge at our house. I disapproved of this new puppy. We already had a Labrador and a Vizsla, which I used for hunting waterfowl, upland birds and rabbits. We didn't need another dog, especially a mixed breed that appeared to have little hunting potential.

I sat down with my son and told him he had two choices. He could take the dog back to where he found it, or he could give it to me and I would... "take care of it." He looked up at me with big brown, defiant eyes and said, "Dad, I think we should wait until Mom gets home to make that decision."

Needless to say, Mom fell in love with the puppy, and we added another dog to the Urich household.

We named the dog Abby. As she grew, I paid her almost no attention. She was some kind of terrier-beagle cross. She had the solid tan color of a terrier, but the body shape of a beagle.

The next winter, Abby tagged along as I hunted rabbits on our place with my Lab. Suddenly, a rabbit launched out in front of me. Abby raced after it, baying loudly. Soon the rabbit came back toward me. I shot it and the Lab retrieved it.

It dawned on me that having more beagles might make rabbit hunting even better. I had three young sons that I planned to introduce to hunting. The thrill of following excited beagles, as well as the strong likelihood of success, would certainly capture their interest.

Two years later we had six beagles. We trained them mostly through trial and error. I discovered that beagles



need practice to develop their skills. It takes them about two years to learn how to trail rabbits efficiently. Having older beagles can help you train young ones because young dogs instinctively follow more mature dogs. I prefer having three age groups of beagles: mature, intermediate and trainees.

Training those dogs is both easy and convenient because we live on land that we manage for rabbits. I let

the dogs out of the kennel about an hour before sunset, and we head to the nearest field where I know there are rabbits. The older dogs don't take long to scent a rabbit and start baying. It takes months for the younger dogs to learn what the baying and running is all about and to join the older dogs.

If the evening is cool and the ground is moist, the older dogs do a fine job chasing rabbits with the younger dogs following along. On hot and dry summer evenings, trailing rabbits is almost impossible. That's when

I train the dogs to search for my scent. This is important because during the hunting season, rabbits often hide underground in holes or find other ways to elude dogs. When this happens, I want the dogs to return to me rather than wander around searching for another rabbit.

I learned the value of training the beagles to find me after we nearly lost the Wilson Twins, a brother-sister



As soon as a beagle finds rabbit scent, the chase begins.

combination. My kids could never tell these two dogs apart, so we gave them the same name: Wilson. We had finished a rabbit hunt on the Lamine River Conservation Area in Cooper County. It was snowing, cold and getting dark as we returned to the truck. That's when we noticed the Wilson Twins were missing.

My sons volunteered to wait in the truck while I backtracked through the snow to find the dogs. I vetoed that suggestion, arguing that three extra sets of eyes were needed because the dogs were not baying. After walking in the dark for more than an hour, we finally found the two dogs.

Our long walks in the hot, dry, summer evenings helped teach the dogs to find me, rather than make me look for them.

This training sure helped the time I took all six beagles and a basset hound to southeast Missouri to hunt swamp rabbits at the Donaldson Point Conservation Area in New Madrid County. The first swamp rabbit we flushed took off running, with the dogs baying behind. A few minutes later, I couldn't even hear the dogs. The rabbit got away. If the dogs, including the Wilson Twins, had not come back on their own, I would have never found them.

Those swamp rabbits presented quite a challenge to the beagles.

On another trip the following year, the weather was much warmer and the ditches and streams weren't frozen. The swamp rabbits eluded the dogs by swimming across ditches. The dogs were stumped. They didn't know they had to swim for rabbits.

They learned that the next morning. Overnight, a thin sheet of ice formed on the water. A swamp



My lab often fetches rabbits that I thought I had missed.

rabbit on the run fell through the ice and made quite a commotion breaking ice as it labored to the other side of the ditch.

This alerted the beagles, and they went in after it. This was the first time I had ever seen them swim.

I sat behind a tree and waited. Before long, the beagles returned, still trailing the rabbit. This time, when the trail ended at an unfrozen ditch, the beagles sniffed to make sure they were on the right track, then entered the water one at a time.

Another important part of our training is teaching the dogs to come up to the house in the evening after our walks. If they are chasing rabbits, I usually leave the dogs in the field. When they lose interest in trailing rabbits, I want the dogs to come to the back door. I reward them for this by letting them inside and feed each one a small portion of dry cat food. Dogs love cat food.

The final aspect of my training involves desensitizing the dog to the sound of a gun. This is a critical step, especially for a timid dog. In my opinion, the best way is to start in the field while the dogs are chasing a rabbit. As the dogs pursue a rabbit, baying and running, I shoot a toy cap pistol. I watch their behavior carefully to see if the young dogs stop or look around when I fire.

After a few times, they usually don't react to the sound. I then increase the volume by shooting "blanks" from a starter pistol. Finally, I switch to a .22-caliber rifle. Standing well away from the dogs, I shoot into the ground until the younger dogs don't react to the sound. The desensitizing process usually takes about half of a day.

I have had many different rabbit dogs over the last 14 years. Some have been purebred beagles from good hunting stock, but most have been mixed-breed dogs with some beagle in them. These dogs are my favorites because they learn quickly. Not only are they fast and efficient rabbit dogs, but they make good family pets.

My three sons are now grown and have moved away,



Training dogs in summer leads to more productive hunting in the fall.

but we still try to have at least two rabbit hunts each winter.

Fortunately, I took many pictures of our rabbit hunting adventures. When I send my Monday morning e-mail message to my sons, I include a digital photo from one of our trips. The picture-of-the-week is now a tradition. If I miss a week, I can count on getting a reminder call. Occasionally I get a call from one of my boys who just wants to reminisce about the latest picture.

It's amazing to think that all our rabbit hunting memories began when my oldest son looked up at me with a new puppy in his hands. ▲

Putting NATIVE PLANTS to work

These natural tools make your landscape beautiful, resilient, and useful to wildlife.

by Bonnie Chasteen

If you're a gardener or farmer, you know the value of a well-stocked toolbox. Imagine a set of tools that improves your ability to cope with drought and flood, produces great summer forage for cattle and provides habitat for quail, deer, turkey and songbirds.

Native plants are tools that every homeowner, landowner, gardener and farmer can use. Missouri's native plant toolbox includes trees, shrubs, vines, grasses and wildflowers that are able to endure drought, disease, foraging, flood and fire. People all over the state are using them to solve problems and enliven their landscapes.

Natives for neighborhoods

In Belton, neighbors Ray Gann and Jan Jones share a love of wild things, and their adjoining properties show it.

Gann stopped mowing his three acres about 12 years ago. "I got more tired as I got older," he said, "and I thought, 'this is really stupid.' I decided to stop mowing and see what would happen."

What happened is that a lot of native prairie and glade plants popped up. They included rattlesnake master, little bluestem, Indian grass, yellow and purple coneflowers, wild indigo and black-eyed Susans. Gann continues to mow the area along the north side of his house to keep honey locusts at bay, but he leaves the brambles in the field to benefit wildlife. He has enjoyed an impressive response to drought from his "no mow, let it grow" approach.

"After 2003, with not one molecule of moisture and 100-degree temperatures, I thought I wasn't going to see a thing," Gann said. "But what I got was *more* species. This year I saw a cast of pink, orange and yellow. It's that tall echinacea."

Gann's neighbor, Jan Jones, began restoring her property to native plants in October 2001. That's when she called Ruth Wallace, the Conservation Department's urban watershed conservationist for the Kansas City Region, with a simple request:

"My neighbor has this beautiful natural area in his



In the hot summer months, cows quickly gain weight eating native grasses and wildflowers.

CLIFF WHITE

JIM RATHERT



Partridge Pea



With a prairie at your doorstep, every day is an adventure. The whole Kennedy family enjoys hunting for butterflies, lizards and other wildlife that thrive in their prairie planting.

backyard,” she said, “and I want my backyard to look just like his. Can you help?”

Wallace visited the Jones’ property and wrote a plan for restoration. Jones’ biggest challenge was fescue. The backyard was full of it.

Because the city of Belton prohibits landscape burning, Wallace and her team used herbicides to remove the fescue from the Jones’ two acres. They then seeded the area with a wildlife habitat seed mix.

Before long, both backyards (about seven acres) will be seen as one prairie field—a vision from Missouri’s past.

Making every acre work

Martin Turner’s large cow-calf operation is not typical for Macon County, but the problems he faces are. His grass is mostly fescue, and he hasn’t heard a quail call on his place in years.

Turner worked with grassland conservationist Tim Clapp from the Natural Resource Conservation Service, and Conservation Department employees Elsa Gallagher and Ted Seiler, to make his farm friendlier to both quail and cattle.

**Native plants are
tools that every
homeowner,
landowner,
gardener and
farmer can use.**

On a steep, relatively unproductive hillside, Turner planted strips of pine and native shrubs, including plum, indigo bush and sumac. These shelter quail from predators and provide them with winter forage. The shelterbelts also will protect cattle from bitter winter winds and help prevent his water tank from freezing.

In addition, Turner is converting more than 100 acres of fescue to native warm-season grasses, forbs and legumes. Seeded in spring 2003,

with help from EQIP (Environmental Quality Incentives Program), his mix includes Indian grass, big and little bluestem and sideoats grama, as well as black-eyed Susan, purple prairie clover, Illinois bundleflower and partridge pea.

Besides benefiting quail, Turner’s prairie seeding will increase his management options and give his cow-calf herd a mid-summer rest from fescue, which can be toxic to cattle during hot summer months.

Although the nearest quail covey is still several miles away, Turner hopes that by making a place for them with native grasses, forbs and shrubs, he will eventually entice them to return to his farm.

It's a family affair

In Callaway County, a young family makes native plants the centerpiece of both their landscape and their family activities. Jim and Andrea Kennedy became interested in native plants years ago when they noticed wildflowers growing along Missouri's roadsides.

"At first we didn't know that most of those wildflowers aren't native," Jim said. "As we learned more, it became really special when we saw an area that was all native."

Their research led them to purchase a copy of Julian Steyermark's *Flora of Missouri*. They accumulated more information about native plants while volunteering at Cuivre River State Park in Troy and during prescribed burn workshops at Shaw Nature Reserve in Gray Summit.

After so much research and hands-on experience, they yearned for a place that could become a life-long restoration project for them and their children. They looked for a property that would give them as much diversity as possible. They soon found a parcel near Readsville.

The 93 acres they manage in common with Andrea's dad, Frank Timmermeier, includes upland prairie, timber and thin, rocky outcroppings called glades.

"We have ridges in all directions," Jim said, "and that gives us a great amount of diversity."

They bought their property in 1990 and used *Flora of Missouri* to identify the native species they had, and to determine what would have grown there before settlement.

They found 350 native plant species, and they added others from several *Grow Native!* member nurseries. When they began periodically burning their landscape, Missouri's yellow lady's slipper (*Cypripedium calceolus*) started popping up.

Now they burn their prairies and thinned woodlots regularly. They burn some parcels annually, and others once every three years.

Although prescribed burning is central to their native landscape management, Jim and Andrea



JIM RATHERT

Prairies offer a variety of textures, like this feathery Indian grass.

caution others who are interested in prairie restoration not to use fire until they've been trained and have some experience with it.

"Fire is a great management tool," Jim said, "but you have to know what you're doing."

In addition to tracking native plant species, Andrea, Jim, and their children keep a bird list.

"We've seen 142 species, including Henslow's sparrows, a scissor-tailed flycatcher and an upland sandpiper," Andrea said.

The Kennedys spend a lot of time thinking about their landscape, working with it and enjoying it. In fact, it is an important part of their family life.

"The kids love to help with the projects and name the plants and birds," Andrea said.

"We'll be working on this forever, and we don't really have an end in mind," Jim added. "It's just great to see how things change from one year to the next."

A school's "Secret Garden"

In southwestern Missouri, a secret garden grows in the middle of Marshfield's Edwin P. Hubble Elementary School. Totally enclosed by the school building, the



CLIFF WHITE

Belton-area neighbors Ray Gann (left) and Jan and Jake Jones consult with urban watershed conservationist Ruth Wallace (right) about their prairie plantings.

Secret Garden features cozy reading areas beneath canopies of native dogwood, redbud and hawthorn. On late spring afternoons, you might find kindergartners napping in the shade.

The Secret Garden wasn't always so picturesque, said Anita Lael, the school's principal.

"A group of teachers actually initiated the Secret Garden in the mid 1990s," Lael said, "but by the time I arrived in 2001, those teachers had all retired, and the outdoor classroom was just overgrown, full of bugs—a disaster!"

To restore the garden, Lael sought help from master gardener Jane Robertson and conservation education consultant Jay Barber. Robertson worked with teachers and community volunteers to clear out weeds and overgrown beds and replant the area with a variety of Missouri native plants.

Barber acquired native shrub and wildflower species from the state nursery, and from a *Grow Native!* member nursery. Since then, he's developed several life-cycle educational programs that send kids out into the garden to survey butterfly eggs, larvae, pupae and adults, as well as frogs and tadpoles.

"Secret Garden is a great way to do cross-curricular activities, and I encourage other schools to develop their own if they can," Lael said.



Native warm-season grasses, like this little bluestem, improve livestock forage and quail habitat. Hubble Elementary School students (opposite) search for aquatic life in a pond graced by native water lilies. The pond is in their school's restored "Secret Garden."



CLIFF WHITE

Martin Turner (left) talks with private land conservationist Ted Seiler about the role native plants play in his forage system.

Grow Native! Makes it Easy

In their efforts to put native plants to work on their landscapes, Missouri's homeowners, farmers and teachers receive help from the Missouri Department of Conservation and the Missouri Department of Agriculture. The two agencies jointly administer *Grow Native!*, a marketing and education program that makes it easy for Missourians to discover, choose, purchase and successfully use native plants.

The *Grow Native!* web site (www.grownative.org) combines the departments' efforts to educate people about native plants and to help them find and purchase them. The site provides a searchable database of more than 200 native plant species and lets users sort plants according to their site requirements, color, texture and value to wildlife. The web site also features ready-made designs to help first-time users add native species to their landscapes. To make purchasing easy, the site provides a shopping feature that lets users search for native plant nurseries, products and landscape services within their ZIP Codes.

For more information about native plants or the *Grow Native!* program, e-mail info@grownative.org or call 573/522-4115, ext. 3833. Professionals interested in the business development and marketing side of *Grow Native!* should call 573/522-4171 ▲

JIM RATHER

CLIFF WHITE





Henslow's sparrow

Grassroots Works for Grasslands

Protecting valuable prairie lands and the creatures that live on them. by Sharron Gough

Grasslands are subtle. They don't shade us from summer's sun or shield us from winter's wind. They don't grow stately and tall like forests. They don't yield lush and colorful fruits. They simply provide.

As uninspiring as grasslands may be, we owe our existence to them.

From grasses we take our daily bread, and from grass-eaters we take our daily meat. Just three grasses —corn, rice and wheat—supply 50 percent of the world's daily supply of nutrients.

Of all the world's ecological systems, none has been more dramatically affected by humanity than grasslands. Prairie once covered 40 percent of the continent. Most of it has been transformed into vast fields of grain. In the tallgrass prairie region, less than 1 percent is still native grassland. In

Missouri, less than one-half of 1 percent remains.

Many of the creatures native to our prairies have not adjusted to this dramatic loss of habitat. First to go were the large mammals. Grizzly bears, wolves, elk and bison have been squeezed into mountainous areas or isolated preserves.

As native prairie continues to dwindle, the smaller animals are diminishing,

John Whitesell surveys his prairie project in a "focus area" near Lockwood.

too. Grassland birds are the most rapidly declining group of birds in North America. Most have been in constant decline since the Breeding Bird Survey was initiated in 1966. Several bird populations have dropped by more than 80 percent. Since 1990, prairie chickens in Missouri have plummeted from 3,000 to 500 birds.

Dwindling prairie habitat, and the demise of the creatures that depend on it, sparked the formation of the Grasslands Coalition. Led by the Missouri Prairie Foundation, the Coalition formed in 1998, within a month



JIM RATHERT



CLIFF WHITE

"Boomer" and a young boy regard one another on the Lek Trek trail.

after the greater prairie chicken had been placed on Missouri's state endangered species list.

Natural resource agencies and private conservation groups joined the Coalition to pool knowledge, manpower and resources to

better understand and address the needs of grasslands. The prairie chicken, a widely recognized symbol of the grasslands, is the Coalition's mascot.

The Coalition has two goals. One is to help the public understand the importance of grasslands. The second is to improve grassland habitat in areas that could make a significant and lasting difference to species like the prairie chicken. The term "grasslands" was chosen to define the Coalition, because even though our remaining prairie is vital to grassland wildlife survival, many thousands of acres of non-prairie grasslands are also important in stabilizing grassland wildlife populations.

To get started, the Grasslands Coalition launched the Lek Trek, a public awareness campaign named after the booming ground (lek) of the prairie chicken. From July to October 2000, hundreds of people walked parts of the 565-mile Lek Trek route through western Missouri. This part of the state once was covered by tallgrass prairie.

During the Lek Trek, thousands of people learned about grassland issues through media coverage or by attending any of the 18 special events or 24 "Learning Days" offered along the route. During this public awareness campaign, "Boomer," the prairie chicken mascot, spread the word about prairie communities and grassland wildlife at schools, field days and social events across the state.

Meanwhile, work on grasslands switched into high gear. The Grasslands Coalition orchestrated manpower, funding, knowledge of grassland ecology, and the support of Missouri landowners to address habitat issues in key areas.

Private organizations add an important dimension to the Coalition, offering fresh questions, observations, volunteers and enthusiasm.

Coalition members attend workshops on prairie chickens, grazing, prescribed burning, insects and other aspects of grassland ecology. They share manpower and

equipment to conduct burns, remove trees and brush, run a prairie seed collection cooperative and monitor wildlife-friendly grazing systems.

They also provide matching funds and labor to compete for grants. They sponsor Americorps Teams to help supply manpower. They work together to apply new Farm Bill programs, such as WHIP, GRP and EQIP, to grassland management.

To decide how and where to direct resources, coalition members inventoried 15 areas that still support prairie chickens. Based on the amount and quality of existing grasslands and the level of landowner interest, nine of these areas were chosen as focus areas. Team leaders wrote strategic plans and work objectives for the focus areas and assembled work teams to help them accomplish their goals.

Obtaining grants offered a solution to the huge problem of funding. In a few short years, good grant writers helped change the landscape, so to speak.

Donor organizations prefer projects that promise long-range planning and long-term commitment from a number of partners. Because grassland wildlife is of particular interest to many organizations, Grasslands Coalition projects fit perfectly.

The National Fish and Wildlife Foundation, Phillips Petroleum, the National Wildlife Federation and the U.S. Fish & Wildlife Service have all contributed to Grasslands Coalition work. In the few years since its inception, the Grasslands Coalition has applied more than \$1 million to prairie management and grassland wildlife.

The cooperation of willing landowners within focus areas is crucial to the efforts. Although much work is done



CLIFF WHITE

During an "education day" at Taberville Prairie Conservation Area, youngsters learn about prairie plants.



Prairie chickens and other grassland species will benefit from the Grassland Coalition's efforts to increase prairie habitat.

on public land on behalf of grasslands wildlife, stabilizing these populations requires that habitat improvements be expanded on private land. Fortunately, private landowners have expressed interest in a wide range of projects, and have demonstrated long-term commitment to improving their grasslands.

Although grassland wildlife face many perils, two are particularly threatening. One is fescue, an aggressive, exotic grass that crowds out beneficial food and cover plants. About 17 million acres or 40 percent of Missouri grassland is now occupied by fescue.

The second is the encroachment of trees that were once controlled by prairie wildfires and native browsers. Thousands of miles of relatively new tree lines provide travel lanes, hunting perches and denning sites that support predators. Grassland birds and small mammals nesting near these tree lines fall prey to elevated numbers of predators. Most are unable to produce enough young to offset the increased losses to predation.

Removing fescue and trees is expensive. Herbicide, seed and the time required to convert fescue to other forages can cost hundreds of dollars per acre. Removing trees can cost thousands of dollars. Those amounts are daunting for even the most obliging landowners. That's why funding from grants is so important.

On John Whitesell's farm in Dade County, for example, trees have grown up in fescue pasture that once was prairie. Tree removal costs alone are estimated

at \$12,000. Converting fescue to native grasses and forbs could cost up to \$400 per acre. Fortunately, financial assistance was available.

With the help of a grant from the National Fish & Wildlife Foundation, Whitesell has removed trees from 160 acres of fescue. Thirty acres have been converted to prairie grasses and forbs, and more will follow. Whitesell is working with a Grasslands Coalition biologist on a grazing system that will focus on livestock gains and prairie chicken habitat. He also is interested in a possible long-term conservation easement.

Whitesell's farm abuts a public prairie, so he is well aware of how important his farm could be to the local prairie chicken population.

"The farm needs to be economically self-sustaining," Whitesell said, "but I think we can do that with the right combination of forages and grazing rotations. I'm willing to work out the details. It's important to do it, considering that the land is so close to native prairie and the prairie chickens."

The Grasslands Coalition promotes practices that are economically sound, sustainable and acceptable to landowners like John Whitesell in order to ensure continued improvement of Missouri grasslands. You can be a part of this important work by joining one of the Grassland Coalition's member organizations. For more information, contact Sharron Gough at 417/876-5226 or <Sharron.Gough@mdc.mo.gov>. ▲



NODAWAY VALLEY

by Bryan Hendricks
photos by Jim Rathert



This northern Missouri conservation area attracts waterfowl by the thousands.

For Missouri's waterfowl hunters, the sight of mallards fluttering into a spread of decoys is the essence of autumn. The Missouri Department of Conservation manages a number of wetland development areas across the state where waterfowlers can experience the thrill of world-class duck hunting. One such area is Nodaway Valley Conservation Area.

Located north of St. Joseph in Holt and Andrew counties, Nodaway Valley Conservation Area occupies about 3,800 acres of floodplain along the Nodaway River. The Missouri Department of Conservation purchased the area from 1991–93 to restore a portion of the wetlands that once defined the area. The Department's efforts there have created a wildlife oasis for both resident and migratory species, highlighting the importance of wetlands to Missouri's natural landscape.

Naturally, Nodaway Valley is home to a diverse assortment of shorebirds, wading birds and songbirds. Come autumn, it beckons impressive numbers of ducks and geese, making the area popular among the region's waterfowl hunters.

ILLUSTRATION BY MARK RAITHEL



Nodaway Valley Conservation Area offers excellent waterfowl hunting.

Craig Crisler, a wildlife management biologist for the Conservation Department at Nodaway Valley, said that in 2003, the peak of the waterfowl migration brought about 40,000 ducks to the area at one time. He said he expects that number to increase.

Crisler bases his optimism on the 2,000 acres of new wetlands that the Conservation Department restored in 2002-2003. These marshes straddle the Nodaway River and provide valuable resting and feeding habitat for migrating waterfowl.

To provide nutrition for waterfowl, Crisler said the Department manages about 60-70 percent of the wetland units for food production. The staff manages these units for moist soil foods, like millet and smartweed. It also plants a mixture of row crops. Other areas are planted with corn and milo. This combination provides high protein to help waterfowl maintain good physical condition, as well as high carbohydrates to fuel their migration.

To obtain water for the wetlands, the staff at Nodaway Valley Conservation Area pumps water into

WATERFOWL HUNTING AT NODAWAY VALLEY

To hunt waterfowl on the controlled access portions of Nodaway Valley CA, hunters must participate in a daily drawing.

If all of the marsh habitat is available, the staff at Nodaway Valley generally allows access to 15-20 groups of hunters through the drawing.

Open hunting is allowed on a walk-in basis at selected units. No drawing is required, but hunters must register before entering. Unless they draw into one of the four blinds on the east side of the area, hunters must provide for their own concealment. Layout boats or hunting kayaks are popular among many hunters.

For more information, contact Nodaway Valley Conservation Area at 660/446-3371, or visit the Conservation Department's web site at www.missouriconservation.org.

the wetlands from the Nodaway River. This ensures that some habitat is available every year.

"Last year, due to the severe drought, the river was really low," Crisler said. "We decided to limit pumping because we didn't want to put any additional stress on the river's aquatic wildlife and aquatic habitat."

Having water in only 60 percent of the wetlands still was enough to draw in thousands of mallards, as well as many other ducks and geese. With 100 percent of the wetland habitat available in a wet year, Crisler said, the area should attract even more waterfowl.

Although mallards are the main draw for hunters vis-



Great Egret

iting Nodaway Valley Conservation Area, other species of “dabbling” ducks also use the area. Their numbers fluctuate depending on the time of year. Because of the nature of the habitat, diving ducks, such as canvasbacks and redheads, aren’t as numerous.

“Most of our wetlands are really shallow,” Crisler said. “They attract a lot of dabbling ducks, like teal, wigeon, pintails and wood ducks.

“Our birds, mostly blue-winged teal, start arriving the first or second week of August, but their numbers start increasing dramatically in late September,” he added. “That’s when we start seeing a lot of green-winged teal, pintails and gadwalls. The mallards start arriving in mid-October and remain through the end of November, depending on the weather.”

MAPS

The Missouri Department of Conservation publishes brochures of most of its conservation areas, including Nodaway Valley. These brochures contain maps of the area, as well as area regulations.

To obtain a brochure of Nodaway Valley Conservation Area, contact the Conservation Department’s office in St. Joseph at 816/271-3100, or the Department’s Chillicothe office at 660/646-6220.

Maps and brochures are also available on the Conservation Department’s web site at <www.missouriconservation.org>, keyword: nodaway.

WATCHABLE WILDLIFE AT NODAWAY VALLEY

Nodaway Valley Conservation Area provides habitat to a multitude of other bird and mammal species that non-hunters can enjoy.

“With the amount of emergent marsh we have at Nodaway, we have a pretty good mix of species throughout the spring and summer months,” said Craig Crisler, wildlife management biologist for the Conservation Department. “We’ve got some birds that breed here on these wetlands, too, like American coots, pied-billed grebes and least bitterns.

“We also have a pretty good population of river otters,” he added.

The wetland pools at Nodaway are also productive fisheries, Crisler said. In late summer, the pools recede from evaporation, concentrating fish into small areas. That attracts minks and raccoons, as well as great blue herons and otters.



Pelican

“We get a pretty good migration of pelicans in the spring and fall,” Crisler said. “They concentrate in the same habitat as the herons and otters, eating young fish and crayfish.”

In the spring and fall, you can also see sandpipers, yellowlegs, ibis and other species of herons. Nighthawks and swallows also eat the insects that hatch in the marshes.

“In August, there are just thousands of swallows swarming over the wetlands eating those insects that are hatching,” Crisler said.



Greater Yellowlegs

NODAWAY VALLEY PARTNERS

The Department's efforts at Nodaway Valley Conservation Area are possible thanks to the contributions of some dedicated conservation partners. These include:

- ▲ North American Wetland Conservation Act
- ▲ Ducks Unlimited
- ▲ Holt County Levee District #5
- ▲ National Wild Turkey Federation
- ▲ Wildlife Forever
- ▲ The Missouri Prairie Foundation
- ▲ Boy Scouts of America Troop 81 (Oregon, Mo.)
- ▲ Northwest Missouri Quail Unlimited
- ▲ Northland Pheasants Forever
- ▲ Idecker Inc.



Weather is the key factor that determines how long ducks linger in Missouri, and Nodaway Valley is especially sensitive to it. As the northernmost of all the Conservation Department's wetland development units, it usually experiences severe weather first. Because its marshes are shallow, they freeze over quickly. When that happens, the ducks depart.

"Generally, we start getting ice in November, and you can count on the entire marsh freezing up by the first or second week of December at least every other year,"

Crisler said. "We're always one of the first areas to freeze up, so we're also one of the first to be done with good hunting."

Hunting access at Nodaway Valley is managed primarily by a daily drawing that takes place before legal shooting time. The west half of the area is open marsh with no blinds or designated hunting sites. Hunters who draw in are simply assigned to a pool, and hunting ends at 1 p.m.

Hunting on the east side is similar to the west side, but hunters are allowed to hunt waterfowl until sunset.

One pool on the east side contains four duck blinds. These have been popular with hunters during the past two seasons.

The southern end has marsh units that are open to walk-in hunting. Drawings are not held for this area. Hunters self-register and pick a spot. These units are popular among those who want to hunt after work.

"The open area can have some really good hunting," Crisler said. "The first season the east unit was open to hunting, in 2002, about one-third of the area harvest was on the open hunting area. They averaged about 1.8 birds per hunter, while they averaged about 1.7 birds per hunter on the rest of the area."

In 2003, area hunters averaged about two birds per trip. That's an impressive average, and when conditions are right, ducks should be even more plentiful. That's just one good reason to plan a trip to one of Missouri's most remarkable conservation areas. ▲



Mallard

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- Cave, Shannon**, *Commemorating the Bicentennial*, January
Lewis & Clark in Missouri, January
- Cavender, Kathy**, *It's a Capital Idea*, May
- Chapman, Duane**, *Carp Lemonade*, July
- Chasteen, Bonnie**, *Habitat Hint—Extend Fall Color with Native Grasses*, September, Almanac
Putting Native Plants to Work, December, Outside In
Watershed Works, November, Outside In
- Clemons, Boyd**, *Best Fishing Trip*, March
- Cornelius, Dale**, *Where the Buffalo Roam*, October
- Cwynar, Tom**, *An Angler's Guide to Mark Twain Lake*, June
Fishing a Pond, May, Outside In
Let's Go Fishing, May, Outside In
Trophy Does, November
- Dey, Dan and John Kabrick**, *Regenerating Oaks in Missouri's Bottomlands*, July
- Dickey, Jason M.**, *The Measure of Success*, August
- Doolen, Rod**, *Some Like It Wet*, May
- Eder, Steve**, *Vantage Point—Got Fish?* March
- Erickson, Dave**, *Vantage Point—Thank You, Partners!* May
- Fagan, Kathryn**, *Homecoming Deer*, February, Outside In
- Fairchild, Barbara**, *Habitat Hint—Feast for Finches*, December
- Fisher, Steve**, *Strip Herbicide Application Benefits Bob*, October, Almanac
- Forbes, Andrew**, *Birds in Your Neighborhood*, November, Outside In
- Gallagher, Elsa**, *A Roadmap to More Quail*, July
- Gemming, Craig**, *Fight for Survival*, November
- Goff, Debbie**, *Vantage Point—Conservation Kin*, September
- Goodwin, Mark**, *Catfish in Miniature*, July
Owning a Good Gun Dog, May
Scattergunning for Squirrels, September
Sharpen Your Skills with Squirrels, August
Snakes Alive, April
- Gough, Sharron**, *Grassroots Works for Grasslands*, December
- Hamilton, Theresa Ann**, *Beauty of Bats*, February, Outside In
- Hanson, Lonnie and Bill Heatherly**, *Managing the Herd*, April
Deer Management for the Future, October
- Harlan, James D.**, *The Wild Missouri*, January
- Hartman, George**, *Where There's Fuel, There Could Be Fire*, March
- Haviland, Mark**, *Caught in the (Good) Act*, February, Almanac
- Heatherly, Bill and Lonnie Hanson**, *Managing the Herd*, April
Deer Management for the Future, October
- Helfrich, Phil**, *Three Birds With One Stone*, December, Almanac
- Hendershott, A.J.**, *A Prairie in the Swamp*, June
- Hendricks, Bryan**, *Seek a Creek!* Outside In, May
The Thrill of the Chase, Outside In, May
Nodaway Valley, December
- Hoskins, John D.**, *Vantage Point—A Growing Program*, April
Vantage Point—Back to School, August
Vantage Point—Conservation Supports Missouri Counties, November
Vantage Point—Fifty Years Ago, February
Vantage Point—Observing by Watching, June
Vantage Point—True Measures of Conservation Success, December
- Humburg, Dale**, *Vantage Point—Continuing the Voyage of Discovery*, January
Vantage Point—Your Input Counts, October
- Hutton, Tom**, *Do Pigs Have Wings?* November
- Johnson, John A.**, *Teal Hunting*, August
- Kabrick, John and Dan Dey**, *Regenerating Oaks in Missouri's Bottomlands*, July
- Kelly, Gene**, *Entrusted to the Future*, September
- Kelly, Ryan**, *Wood Duck Banding and Nesting*, September
Duck Bills, November, Outside In
- Letchworth, Beverly**, *Roadside Raptors*, April
TAP! TAP! Rat-a-tat! August, Outside In
- Letchworth, Cindy**, *Marvelous Monarchs*, August, Outside In
- Lingle, Craig**, *Stocking Your Bat House the Hard Way*, June
- Love, Kathy**, *Save the Last Dance*, February
- Low, Jim**, *Digging Into "Dugout" History*, January
- Lyons, Liz**, *Shaking Hands with Forest Park*, April
- Meister, Kevin and Wendy Sangster**, *Urban Canada Geese in Missouri*, February
- Meneau, Kevin**, *A Trim and a Tuck!* February
- Moore, Travis**, *If Leaves Could Talk*, October
- Nigh, Tim A.**, *In the Footsteps of Lewis and Clark*, October
- Rathert, Jim**, *Birding on Conservation Areas*, September
- Raeker, Gus and Mike Stambaugh**, *Too Much Sugar!* March
- Riggert, Chris**, *Stash That Trash*, May
- Rimer, Rhonda L.**, *Sneezeweed*, October
- Rockers, Phil**, *Habitat Management Behind an ATV*, February
- Ruzicka, Don**, *Agent Notebook*, December, Almanac
- Sangster, Wendy and Tom Meister**, *Urban Canada Geese in Missouri*, February
- Schaper, Jo**, *A Peek at a Creek*, February, Outside In
- Scott, Jeff**, *Agent Notebook*, March, Almanac
- Smith, John W.**, *2004 Wildlife Code Changes*, February
- Stambaugh, Mike and Gus Raeker**, *Too Much Sugar!* March
- Strother, Thomas III**, *Agents Notebook*, July, Almanac
- Suttmoeller, Michael**, *Agents Notebook*, November, Almanac
- Twyman, Dennis**, *Agents Notebook*, May, Almanac
- Urich, David**, *Missouri's Big Game Fish*, February
Beagle Boogie, December
- Vaughn, Robert A.**, *Enjoy the Scenic Missouri*, August
- Van Patten, Mark**, *The Fishing Bug*, March
- Wahlgren, Randee**, *A Survivor's Tale*, March
- Watts, Roxanna**, *Rock Runners*, August, Outside In
- Weiss, Tony**, *Savoring Venison*, September
- White, Bill**, *Bobwhite Quail Myths*, August



HABITAT HINT: *Feast for Finches*

To attract American goldfinches, purple finches and house finches, turn your yard into a living bird feeder. The Finch Feast Landscape Guide at www.grownative.org will get you started.

The guide suggests a collection of Missouri's native grasses and flowers, such as prairie dropseed and purple coneflower. The seeds of these plants provide food for finches all year.

To enhance your finch feast and encourage the birds to nest nearby, border your yard with seed-bearing trees and shrubs. Be sure to offer open space and a year-round water source. Your reward will be a yard brimming with birds.

To order an 8-page landscape guide that includes a finch feast, visit www.grownative.org or write to *Grow Native!* P.O. 180, Jefferson City, MO 65102-0180. —Barbara Fairchild

Quail-friendly farming pays

North America's bobwhite quail population declined from 59 million birds in 1980 to about 20 million in 1999. In August, President George W. Bush announced a new initiative to reverse this trend by creating 250,000 acres of bobwhite habitat.

This new initiative is called Habitat Buffers for Upland Birds (HBUB). It encourages landowners to create buffers of native warm-season grasses, legumes, wildflowers, forbs and shrubs along agricultural field borders.

Thirty-five states are included in the plan. Missouri is one of only five states eligible to receive funding for the maximum of 20,000 acres.

Under HBUB, landowners can create buffers around entire crop fields with a minimum width of 30 feet and a maximum width of 120 feet.

Landowner incentives include:

- ▲ A sign up payment of up to \$100 per acre
- ▲ Practice payments of up to 40 percent of the eligible establishment cost
- ▲ Annual rental payments for the length of the contract
- ▲ Maintenance incentive payments
- ▲ Cost-share assistance of up to 50 percent of the eligible reimbursable practice costs.

Program sign-up started Oct. 1 and will continue until 20,000 acres are enrolled. To learn if your land qualifies, contact a Farm Service Agency office and ask about CP33.



Frog deformities linked to snails, excess nutrients

Researchers at Washington University in St. Louis and the University of Wisconsin have established a link between deformed frogs and excess nutrients in ponds.

Frogs with missing or multiple limbs were first noticed in Wisconsin in 1995. The next year, a student at Gentry Middle School in Columbia discovered the same phenomenon there.

One of the researchers established a link between frog deformities and a parasite that uses a particular snail species as an intermediate host. The parasites thrived where the snails were abundant. When the parasites infected frogs and toads, they caused deformities.

Another researcher found a link between elevated nitrogen and phosphorus levels in pond water and snail numbers. Pooling their knowledge, the two documented a chain of events that starts with runoff from agricultural fields or real estate development and ends with deformed frogs.



NATURAL EVENTS CALENDARS STILL AVAILABLE

It's not too late to buy the 2005 Natural Events Calendar, but supplies are running short. Visit a Conservation Nature Center or regional Conservation Department office to pick up your copy.

The 2005 calendar contains stunning photographs of plants, animals and landscapes. It also features daily entries that provide insights into natural happenings, from the arrival of ruby-throated hummingbirds to meteor showers.

The calendar costs \$5, plus applicable tax and shipping. To order by mail, call 877/521-8632, toll-free, or write to The Nature Shop, P.O. Box 180, Jefferson City, MO 65102. You can also order online at www.mdcnatureshop.com.



COMMUNITY LAKES ARE FEATHERS IN CAP

Initiated in 1980, the Community Assistance Program (CAP) provides fishing opportunities in communities throughout the state.

Through CAP and the closely related Corporate and Agency Partnership Program (CAPP), the Conservation Department enters into long-term agreements with cities, counties, state and federal agencies, businesses, foundations, schools and colleges. These agreements call for the Department to provide fisheries management at existing lakes and ponds, and cooperatively develop and maintain facilities for anglers and boaters at lakes and streams.

The Conservation Department stocks fish, manages habitat and sets fishing regulations. It also arranges most of the funding for facilities development. In return, the partners help with development, allow free public use of the area for fishing, boating and other recreation, and provide routine maintenance and law enforcement. CAP and CAPP agreements are tailored to individual circumstances and partners.

These programs are a cost-effective way for communities to provide fishing and boating opportunities. The Department has cooperative agreements with 104 partners for 133 public lakes totaling 9,030 acres. Also under the program are 41 community stream access areas, three lake access areas and five aquatic resources education ponds.

For more information about the CAP and CAPP programs, call the Department's Fisheries Division at 573/751-4115.

Arbor Day poster contest

Trees are Terrific! and Energy Wise! is the theme for the 2005 National Arbor Day poster contest. Missouri fifth-graders will vie for a cash prize and the chance to compete in the national contest.

Packets with contest details are sent to art teachers statewide. Any fifth-



**The National
Arbor Day Foundation®**

grade teacher can obtain a packet by contacting Donna Baldwin, P.O. Box

180, Jefferson City, MO 65102, <donna.baldwin@mdc.mo.gov>. The deadline for state contest submissions is Feb. 18.

The state winner will receive a \$50 savings bond and a 6- to 12-foot tree to be planted on his or her school grounds. The national winner will receive a \$1,000 savings bond and a trip to the National Arbor Day Foundation in Nebraska City, Neb.

Turkey Federation honors Kurzejeski

Eric Kurzejeski, left, former Conservation Department Resource Science Supervisor and now the Department's outreach programs chief, received a Lifetime Achievement Award from National Wild Turkey Federation Regional Director Travis Scott last January. The honor recognized Kurzejeski's wild turkey research and his 20 years of service on the NWTF technical committee. The Conservation Department received the NWTF's Agency Partnership Award.



Habitat work boosts Missouri River wildlife

Last summer, the U.S. Army Corps of Engineers conducted habitat work on the Missouri River to benefit pallid sturgeons. Ducks, beavers, catfish and frogs also will benefit from the project.

As part of a compromise to preserve navigation while conserving the endangered sturgeon, the Corps has dug side channels and chutes, cut notches in wing dikes and created dozens of miniature islands along the river. Altogether, the changes created 1,200 acres of shallow-water habitat where pallid sturgeon can spawn. In the future, the Corps hopes to create 20,000 acres of similar habitat between Ponca State Park in Nebraska and the mouth of the Osage River.



Outdoor Calendar

Hunting

	open	close
Common Snipe	9/1/04	12/16/04
Coyotes	5/10/04	3/31/05
Crow	11/1/04	3/3/05
Deer/Turkey, Archery	11/24/04	1/15/05
Deer, Firearms		
Muzzleloader	11/26/04	12/5/04
Antlerless	12/11/04	12/19/04
Furbearers	11/15/04	2/15/05
Groundhog	5/10/04	12/15/04
Pheasants		
North Zone	11/1/04	1/15/05
South Zone	12/1/04	12/12/04
Quail	11/1/04	1/15/05
Rabbits	10/1/04	2/15/05
Ruffed Grouse	10/15/04	1/15/05
Squirrels	5/22/04	2/15/05
Turkey (spring)	4/18/05	5/08/05

Fishing

Black Bass (most southern streams)	5/22/04	2/28/05
Nongame Fish Stream Giggling	9/15/04	1/31/05
Trout Parks		
catch and release (Fri.-Sun.)	11/12/04	2/13/05

Trapping

Beaver	11/15/04	3/31/05
Furbearers	11/15/04	2/15/05
Otters and Muskrats	11/15/04	varies
See regulations for otter zones, limits and dates		

For complete information about seasons, limits, methods and restrictions, consult the Wildlife Code and the current summaries of Missouri Hunting and Trapping Regulations and Missouri Fishing Regulations, the Fall Deer and Turkey Hunting Information, Waterfowl Hunting Digest and the Migratory Bird Digest. To find this information on our Web site go to <<http://www.missouriconservation.org/regs/>>.

The Conservation Department's computerized point-of-sale system allows you to purchase or replace your permits through local vendors or by phone. The toll-free number is 800/392-4115. Allow 10 days for delivery of telephone purchases. To purchase permits online go to <<http://www.wildlifelicence.com/mo/>>.



OPERATION GAME THIEF

1-800-392-1111

See ya later, alligator



Charlie Smith of Aurora got the surprise of his life when he reeled in a 31-inch alligator. Smith called the Conservation Department, and the 'gator found a new home at Springfield's Dickerson Park Zoo. Alligators

are not native to Missouri. The Stockton specimen had to be an abandoned pet.

AGENT NOTEBOOK

Some of my fondest

memories are of my dad and me running a trap line together. I can still picture floating downstream on a cold wintry day, sipping hot soup. It seems like every time we rounded a bend we'd spot another raccoon in one of our hidden sets, and the excitement would start all over again.

Many regulations ensure that humane and proper trapping techniques are used today. Traps must have a smooth jaw and may not be set in paths used by people or domestic animals. Traps are to be plainly labeled with the user's name and address and attended daily. Special regulations apply to the use of Conibear-type traps and snares. Over the years, trapper education classes and techniques have increased and improved to ensure the best and most humane harvest of wildlife.

Fifty-five percent of Missourians agree that trapping is OK as long as it is regulated. Trappers harvest surplus wildlife and assist in removing nuisance wildlife and predators that threaten livestock. Trapping is part of our heritage, helps with wildlife management, and is an enjoyable sport. —Don Ruzicka



"Hey Santa, the flying squirrels convinced the reindeer to let them pull the sleigh!"



Program Schedule

Television the way Nature intended!

Broadcast Stations

Cape Girardeau UPN "The Beat" WQTV / Saturdays 8:30 a.m.

Columbia KOMU (Ch 8 NBC) / Sundays 11:00 a.m.

Hannibal KHQA (Ch 7 CBS) / Weekends, check local listing

Kansas City KCPT (Ch 19 PBS) / Sundays 6:30 p.m. ★ **NEW TIME!**

Kirkville KTVO (Ch 3 ABC) / Saturdays 5:00 a.m.

St. Joseph KQTV (Ch 2 ABC) / Weekends, check local listings

St. Louis KSDK (Ch 5 NBC) / Sundays, 4:30 a.m.

Warrensburg KMOS (Ch 6 PBS) / Sundays 6:30 p.m.

Other Outlets

Branson Vacation Channel / Fri., Sat. 8:00 p.m.

Brentwood Brentwood City TV / Daily, check local listing for times

Cape Girardeau Charter Cable Ed. Ch. 23 / Thursdays 6:00 p.m.

Chillicothe Time Warner Cable Channel 6 / Wednesdays 7:00 p.m.

Hillsboro JCTV / Mondays 12 p.m. & 6 p.m.

Independence City 7 / Thurs. 2 p.m., Sat. 10 a.m. & Sundays 8 p.m.

Joplin KGCS / Sundays 6 p.m.

Kearney, MO Unite Cable / Tuesdays 6:30 p.m.

Mexico Mex-TV / Fridays 6:30 p.m. & Saturdays 6:30 p.m.

Noel TTV / Fridays 4:30 p.m.

O'Fallon City of O'Fallon Cable / Wednesdays 6:30 p.m.

Parkville City of Parkville / First and third Tuesdays of the month 6:30 p.m.

Perryville PVTV / Mondays 6 p.m.

Raymore Govt. Access-Channel 7 / Various, check local listings for times

Raytown City of Raytown Cable / Wed. 10:00 a.m. & Saturdays 8:00 p.m.

St. Charles City of St. Charles-Ch 20 / Tues. 5:00 p.m. and Wed. 10:00 a.m.

St. Louis Charter Communications / Saturdays 10:30 a.m.

St. Louis City TV 10 / Mondays 11:30 a.m., Wednesdays 3:30 p.m.

St. Louis Cooperating School Districts / Wednesdays 9 a.m.

St. Louis DHTV-21 / Mondays 10:30 a.m.

St. Louis KPTN-LP/TV58 / Thursdays 10:00 a.m.

St. Peters City of St. Peters Cable / Various, check local listings for times

Ste. Genevieve Public TV / Fridays 1 p.m., 6 p.m. & 12 midnight

Springfield KBLE36 / Nine times a week, check local listing for times

Sullivan Fidelity Cable-Channel 6 / Wed. 11:00 a.m. and Fri. 7:00 p.m.

Union TRC-TV7 / Tuesdays 3:00 p.m.

West Plains OCTV / Mondays 6:30 p.m.

Meet Our Contributors



Forestry Field Program Supervisor **Bill Altman** guides fire management for the Conservation Department. He is a 25-year Department employee. In his spare time, Bill enjoys a wide variety of outdoor activities, including hunting and fishing. He lives in Sullivan.

A life-long native plant enthusiast, **Bonnie Chasteen** was a *Grow Native!* program staff member from 2002 to 2004. Currently a Conservation Department editor/designer, she enjoys backpacking, birding, biking, canoeing and plein air landscape painting.



Biologist **Sharron Gough** works for the Conservation Department. She also serves as coordinator for the Grasslands Coalition. Sharron enjoys gardening, writing, cooking, yoga, being in a boat, and taking long strolls with her dog. Sharron lives near Stockton with her husband.

Bryan Hendricks is the *Conservationist's* managing editor. He spends his free time with his kids building and flying model rockets. A tireless seeker of the elusive 300-yard drive, he believes the yardage markers at most driving ranges are incorrect.



David Ulrich is the Wildlife Division's Ozark Unit Chief and a 25-year employee with the Conservation Department. He lives on a 40-acre farm in Moniteau County where he and his wife, Jennifer, raised three sons. Rabbit hunting with beagles and basset hounds and fishing are among his many hobbies.



To learn about bobwhite quail management and Missouri's quail recovery efforts, check out

www.missouriconservation.org

Keyword: quail



Doe in snow

Missouri has a strong, healthy deer herd. New regulations in place this fall encourage the harvest of does and protect smaller bucks, allowing them time to grow larger. —*Jim Rathert*